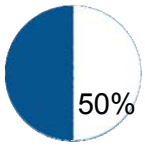
PrintED/SkillsUSA Screen Printing Technology Competencies

The PrintED/SkillsUSA Screen Printing Technology competencies encompass the knowledge and skill set a student should master to exhibit proficiency in screen printing technology. The PrintED/SkillsUSA Screen Printing Technology Skill Connect Assessment test questions align with the PrintED/SkillsUSA Screen Printing Technology competencies.

Note: To fully prepare for the Screen Printing Technology SkillsUSA Championships contest, refer to the current year's *SkillsUSA Championships Technical Standards CD-ROM*, or purchase and download the relevant *Contest Singles,* which are both available in the Educational Resources Catalog at: http://www.skillsusa.org/store/.

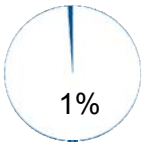
Standards and Competencies
Competencies are weighted throughout the assessment. The percent shown is the weight of the competency. There are 50 questions per assessment.

List and explain the major screen printing processes as outlined by industry standards



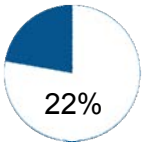
- Define essential components of screen printing processes
  - Design and image generation (positives, emulsions)
  - Image carrier (positives, screens) mesh and tension
  - Squeegee and flood bar
  - Substrates (textiles, ceramics, paper, plastics)
- Inks
  - Formulate inks by weight usage per shirt per order
  - Use percentages multiplied times formula for inks mixing
- Four color process, spot color
- Comprehend and follow tolerances, printing order and special instructions
  - File management
  - Presses
  - Equipment clean up
- Calculations for image preparation
  - Calculate proportional scaling solutions of two designs from art work to garment
  - Demonstrate the ability to square and center an image during screen printing process

Identify primary screen printing markets



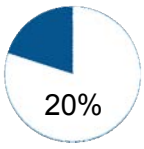
- List and explain the graphics for five market segments
- List three examples that fit into each market segment

Define fundamental screen printing technical terminology



- Achieve a percentage score of 70% or greater on the written exam
- Identify various types of screen printing equipment

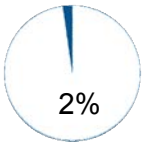
Demonstrate production procedures and skills that meet market expectations for a screen printed image onto a textile garment



- Screen tension
- Screen coating
- Expose (burn) screens with images
- Reclaiming screen processes
- Registration of positives and screens

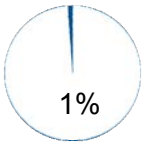
- Loading screens with ink
- Squeegee usage

Evaluate completed screen printed images



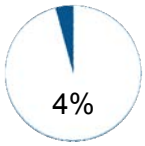
- Describe five criteria of a high quality marketable screen printed image
- Complete an evaluation of two screen printed images on a textile product

Orally explain proper procedures for caring for a screen printed garment



- Selection of textile fiber (cotton, polyester or blend of cotton polyester)
- Temperature at which different fibers decompose (scorch)
- Explain temperature issues with flash curing and belt dryers
- Laundry and pressing temperature to avoid decomposing of inks or fibers
- Explain why steam pressing screen printing images should be avoided (plastisol)
- Describe turning screen printed image to the inside before laundering
- Explain best washing machine settings for screen printed images on cotton, polyester and or blends.

Explain environmental, health and safety issues for a screen printing shop



- List factors to consider for a health and safety plan for a screen printing shop
- List general safety concerns in the printing environment
- Discuss procedures for treating spills and disposal of hazardous substances

***SkillsUSA** is of the understanding that students who take the PrintED/SkillsUSA Screen Printing Technology Skill Connect Assessment have been enrolled in a screen printing training program with the following competencies embedded within the curriculum.*

Identified Academic Skills

None identified.

Connections to National Standards

State-level academic curriculum specialists identified the following connections to national academic standards.

Math Standards

- Numbers and operations
- Algebra
- Geometry
- Measurement
- Data analysis and probability
- Problem solving
- Communication
- Connections
- Representation

Source: NCTM Principles and Standards for School Mathematics. To view high school standards, visit: http://www.nctm.org/standards/content.aspx?id=16909.

Science Standards
None identified.

Source: McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/.

Language Arts Standards

- Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, and graphics).
- Students adjust their use of spoken, written and visual language (e.g., conventions, style, and vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique and discuss print and nonprint texts.
- Students conduct research on issues and interests by generating ideas and questions and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks and video) to gather and synthesize information and to create and communicate knowledge.
- Students participate as knowledgeable, reflective, creative and critical members of a variety of literacy communities.
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Source: IRA/NCTE Standards for the English Language Arts. To view the standards, visit: www.readwritethink.org/standards/index.html.